



First International Conference On  
Communication And Information Processing  
17 - 18 May, 2019

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# ICCIP 2019

## Organized By

NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL'S (NMVPM'S)

**NUTAN COLLEGE OF ENGINEERING & RESEARCH (NCER)**

TALEGAON DABHADE, PUNE - 410507, INDIA

Under Management Support of Pimpri Chinchwad Education Trust (PCET)

Approved By AICTE- New Delhi, Government of Maharashtra and DTE Mumbai

Affiliated To Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere

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ICCIP 2019

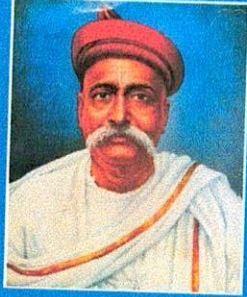


## Nutan College Of Engineering and Research

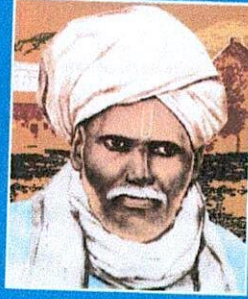
Vishnupuri, Talegaon DabhaDE, Tal- Maval, Dist- PUNE Pin code-410507

Office Phone : 02114-228175 E-mail :contact@ncerpune.com





Lokmanya Bal Gangadhar Tilak



Annasaheb Vijapurkar

## Our Inspiration



Engineering Education through Modern Pedagogical Approach

### NUTAN MAHARASHTRA VIDYA PRASARAK MANDAL'S (NMVPM'S) NUTAN COLLEGE OF ENGINEERING & RESEARCH (NCER) Under Management Support of Pimpri Chinchwad Education Trust (PCET)

ESTD : 1996 Approved by All India Council for Technical Education (AICTE) - New Delhi, Affiliated to Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere  
NCER has been awarded with "Best Skill Based Engineering Institute in Maharashtra, 2018" at 7th Global Education Excellence Awards  
AND NMVPM trust had been awarded with "Best Industry Interface Institute in Maharashtra, 2018" at 6th Global Education Excellence Awards.

Located in the Industrial Hub of Pune  
with over 2000+ MNCs like  
GM, Mercedes Benz, JCB, TetraPak and Close to Talegaon,  
Hinjewadi, Bhosari, Pimpri-Chinchwad, Chakan MIDCs

No.	Course Name	DTE Code	Intake	Specialization
01	Computer Science and Engg.	641924210	120	Cloud Computing, Big Data, Artificial Intelligence, Machine Learning
02	Electronics & Communication Engg. (Sandwich)	641957610	60	Embedded System, VLSI, Robotics, IoT Engg.
03	Mechanical Engg. (Sandwich)	641962510	120	Mechatronics, Product Design, CAD, CAM
04	Automobile Engg.	641960210	60	Design Drafting, Electric Vehicle Technology, Product Design

Eligibility : Passed HSC with Physics and Maths with Chem/Bio/Biotech/Tech/Voc @ 50% for Open & 45% for Retenee.  
AICTE Skill Based B.VOC Courses\*  
(NSQF Level - 7, 3 Years Graduation Program)  
100 (25 each)  
1) Graphics & Multimedia  
2) Electronics Manufacturing Services  
3) Industrial Tool Manufacturing  
4) Automobile Servicing



#### Central Placement Cell

(Maharashtra's Leading Placement Cell with a Renowned Legacy)  
PCCOE, PCCOEDR, NMIIET and NCER are having Common Central Training & Placement Cell

19,500+ PLACEMENTS IN 1 YEARS

250+ PATENTS IN 1 YEARS

210+ COPYRIGHTS IN 1 YEARS

43,500+ ALUMNI

2,50+ RESEARCH PAPERS

250+ INDIAN COLLEGE VISITATIONS

250+ AWARDS



#### Glimpses of NCER

- + 1<sup>st</sup> Skill based Engineering College in Pune with 100% Job Guarantee
- + Centre of Excellence for Training Industry Persons through Mahindra n Mahindra Ltd. & TVS Training Centre.
- + TIE and MCCIA Partnership for Promoting Startups
- + 140+ MOUs with leading firms partnering with MIDC
- + More Practical based learning with live Industry Experience
- + Regular Industry visits to Promote Apprenticeship Model of Learning by Doing
- + Mentorship by 20 IIT/IM/ BITS Pilani/ NIT Alumnus
- + Compulsory Aptitude and Soft Skills Training by IIM Alumni
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- + Value Added Courses like SAP/CAD/CAM/Design Thinking
- + Special Classes for Competitive Exams like GATE/GRE/CAT/GMAT
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- + Daily Sports hour to promote Physical Fitness and to reduce mental stress



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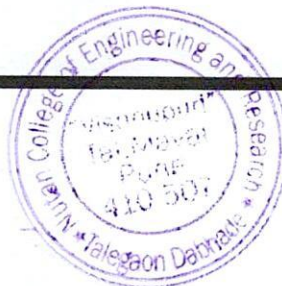


# ICCIP 2019

**First International conference on Communication  
and Information Processing  
17 - 18 May, 2019**

**General Chair**  
Dr. Girish Desai

**Program Chair**  
Dr. Lalitkumar Wadhwa  
Prof. Aparna Pande



**PATRON**

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# Dr. Babasaheb Ambedkar Technological University

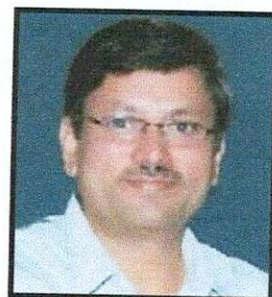
(Established by Government of Maharashtra and Governed by Dr. Babasaheb Ambedkar Technological University Act No. XXIX of 2014)

Vidyavihar, Lonere – Raigad 402 103 (Maharashtra)

www.dbatu.ac.in

## Dr. S. B. Deosarkar

Professor and Officiating Registrar



It gives me an immense pleasure to know that the First International Conference on Communication and Information Processing (ICCIP- 2019) is organized by Nutan College of Engineering & Research, Pune (Maharashtra)-India from 17th to 18th May 2019 under the aegis of Dr. Babasaheb Ambedkar Technological University, Maharashtra.

With the advent of new technologies in the field of Engineering and Management, it is necessary to bring all the scholars at one place to exchange varied methodologies in the discipline.

I am sure, this conference will benefit to the academicians, researchers, scientist, and policy makers of Engineering and Management. Further to it ICCIP 2019 undoubtedly provide the platform to showcase and recognize the outstanding research capabilities of the young researchers.

I express my sincere gratitude to the various Experts and Keynote speakers and Technical Program Committee for their erudite expertise. I must take this opportunity to congratulate the delegates and participants for their significant contribution at ICCIP - 2019.

I wish ICCIP - 19 a Great Success!

Dr. S. B. Deosarkar



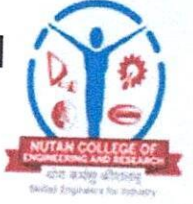


Nutan Maharashtra Vidya Prasarak Mandal's  
**NUTAN COLLEGE OF ENGINEERING AND RESEARCH**

DTE Code- EN-6419

Under Administrative Support of Pimpri Chinchwad Education Trust  
(Approved by A.I.C.T.E, New Delhi, Govt. of Maharashtra & Affiliated to DBATU, Lonere)  
"Vishnupuri", Talegaon Dabhade, Tal-Maval, Dist-Pune-410507  
Tel. (02114) 228175

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**Krishnarao Bhegade (Ex. MLA)**  
President

**Sanjay (Bala) Bhegade (MLA)**  
Vice President

**Santosh Khandge**  
Secretary

**Dr. Girish Desai**  
Principal

Ref.No.: NCER/2018 -2019/

Date: 13/5/2019

## Principals' Message

It gives me immense pleasure to announce that the "1st International Conference on Communication and Information Processing (ICCIP-2019)" is organized by Nutan College of Engineering and Research (NCER), Pune from 17th to 18th May 2019.

NCER-started in 2018, is an industry and skill based engineering college which offers B.Tech. degree in Engineering and Bachelor of vocational degree (B.VOC). NCER provides practical & industry based learning and has MoU with 140+ industries.

This conference will provide a forum to academic researchers, practicing engineers and industry experts to present and discuss their recent work, technical advancement and new products. The thrust of the conference is to initiate a global discussion on the next generation technologies to ease the life of mankind, irrespective of their social and economical status. I am sure; this conference will benefit all the attendees. I express my gratitude to various experts and key note speakers for their scholarly expertise. I am also grateful towards delegates and participants for their significant contribution in research papers.

I am indeed thankful to the management of Nutan Maharashtra Vidya Prasarak Mandal (NMVPM), Pimpri Chinchwad Education Trust (PCET) and Dr. Babasaheb Ambedkar Technological University (DBATU, Lonere) for giving the opportunity to organize the international conference.

I wish, the conference a great success.



**Dr. Lalitkumar Wadhwa**  
Principal

## **The Conference**

**Dr. Girish Desai**  
(NCER, Pune)

**General Chair**

**Dr. Lalitkumar Wadhwa**  
(NCER, Pune)

**Conference Chair**

**Prof. Aparna Pande**  
(NCER, Pune)

**Conference Chair**

**Dr. Brijesh Iyer**  
(Dr. BATU, Lonere)

**TPC Coordinator**



## Preface

Dear Distinguished Delegates and Guests

First International Conference on Communication and Information Processing (ICCIP-2019) is organized by Nutan College of Engineering and Research (NCER), Pune from 17<sup>th</sup> to 18<sup>th</sup> May 2019.

We take this opportunity to express our deep gratitude to the speakers of keynotes and invited talks for accepting our request to share their words of wisdom. We also thank the reviewers and session chairs for their support. Let us thank the authors and delegates for their contributions and presence.

We are extremely grateful to Hon. Shri. Krishnarao Bhegade, Shri. Sanjay Bhegade, Shri. Santosh Khandge, Shri. Rajesh Mhaske, Shri Ramdas Kakade for their patronage and support from time to time. Thanks are due to the administrative staff of the University for their Support. Finally, we have no words to thank all our colleagues, members of various committees, all the student volunteers, and research scholars without whose unflagging enthusiasm and delight efforts, this conference would not have seen the light of day.

We pledged to take this conference series to the greater heights in the years to come with the aim to put forward the need based research and innovation.

Thank you one and all.

Dr. Lalitkumar Wadhwa

Prof. Aparna Pande



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- Prof. V. C. Bhavsar, University of New Brunswick, Canada
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- Dr. Rabiah Ahmad, University Technical Malaysia
- Dr. Subarna Shakya, Tribhuvan University, Nepal
- Dr. Upasana Singh, University of Natal, South Africa
- Dr. Bimlesh Wadhwa, National University of Singapore
- Dr. Francesco Marcelloni, University of Pisa, Italy
- Dr. Mario Koppen, Kyushu Institute of Technology, Japan
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- Dr. Arjun Kumar, Korea University, South Korea.

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- Dr. A. M. Fulambarkar, PCCOE, Pune
- Dr. Sudeep Thepade, PCCOE, Pune
- Dr. N. S. Jadhav, Dr. BATU Lonere.
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- Dr. Leeladhar Malviya, SGGSIET Indore, MP.
- Prof. Shitalkumar S. Rawandale

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Dr. Ravindra Rathod	WCoE, Sangali
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Dr. N .P. Pathak	IIT Roorkee
Dr. M.P. Abegaonkar	IIT Delhi
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Dr. Nitin Naik	YM Nanded
Dr. S. B. Thorat	ITM Nanded
Dr. Durgaprasad Gangodkar	Graphic Era University, Deharadon

## Our Distinguished Reviewers

Name	Affiliation
Dr. Santosh Kumar	Graphic Era University, Deharadon
Dr. Chandrakant Guled	IIIT Pune
Dr. Leeladhar Malviya	SGGS Tech. Indore-MP
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Prof.Amit Naik	Dr. BATU, Lonere

## International Conference on Communication and Information Processing (ICCIP) 2019

Nutan College of Engineering & Research, Talegoan, Pune, Maharashtra  
17th May 2019 – 18th May 2019

### The Schedule

Day & Date	Time	Event		Venue
Day 1 17 <sup>th</sup> MAY 2019	9:00 A M to10:00 AM	Arrival of Guest & Breakfast Participants Registration and Breakfast		Reception Lobby
	10:00 AM to10:50 AM	Inauguration of ICCIP 2019		Conference Rom
	10:50 AM to11:30AM	Keynote Speech by Dr. Dattatray Parale		
	11:40 AM to12:20PM	IPR session by Dr. Harish Tiwari		
	12:30 PM to 1:45 PM	Lunch		Dining Hall
	2:00 PM to 3:25PM	Oral Paper Presentation Session	Track 1ModernComputing Technology	L1
			Track 2:Embedded SystemDesign	L2
			Track 3:Emerging Technologies	L3
	3:25 PM to 3:35 PM	Tea Break		Reception lobby the College
3:35 PM to 500 PM	Continuation of Oral Paper Presentation Session		---	
Day & Date	Time	Event		Venue
18 <sup>th</sup> MAY 2019	8:15 AM to 8.40AM	Breakfast & Tea		Reception Lobby
	9.00 AM to11.00 AM	Oral Paper Presentation Session	Track 4:DIP/Machine Learning	L1
			Track 5:Modern EE Applications	L2
			Track 6:Next Generation Computer Technology	L3
	11:15 AM to 12:15 PM	Welcome and Keynote speech by speaker Mr. Aniruddha Barve		Conference Room
	12:30 PM to 1:45 PM	Lunch		Dining Hall
	2:00 PM to 3:25PM	Continuation of Oral Paper Presentation Session		-
3:25 PM to 3:35 PM	Tea Break		--	
3:35 PM to 5:00 PM	Continuation of Oral Paper Presentation		--	

### Track: 1: Modern Computing Technology

Session Chair -  
Dr. Thepade , Mr. Shyam Ingale

Date: 17-05-2019 Time: 2 to 5PM

Venue: L1

Sr.	Paper ID	Title of the paper	Authors
1	01	Design of Meltwater Energy Efficient Secure Sensor Network	Vinayak Musale
2	04	Real Time Rainfall Monitoring and Flood Control System using Wireless Sensor Network	Kamini Nalavade and Dattatray Shingate
3	14	Lightweight Data Transmission Scheme based on Data Aggregation Technique in Wireless Sensor Networks	Nada Al-Humidi and Girish V. Chowdhary
4	40	Smart Internet Of Things Based Automatic Power Factor Control	Akshay Barhate, Kirti Mundada, Bhargavi Kulkarni and Prof.Manasi Deore
5	46	IOT based robotic solar power tracking and monitoring system	Pragati Gunjal, Aniket Gore, Indrajeet Khot and Kalyani Zanak
6	114	Big Data Classification using the Deep Learning enabled Spark Architecture: A Survey of Techniques	Anilkumar Brahmane and Dr. B. Chaitanya Krishna
7	118	Decentralized Logging Service using IPFS for Cloud Infrastructure	Sagar Rane, Salil Gautam, Anirudh Murali, Nishant Gore and Thomas Sanju Koshy
8	132	A Reliable Workload Management based on Predictive Analysis and Characterization of workload resources in HPC	Reshma Nanadikar, Archana Ghotkar and Anil Gupta
9	159	Secure and Cost Effective Public Cloud Storage for Managing Construction Firm Services.	VidyaShitole, Shradha Kirve, Kajal Chopda and Daulu Shaikh
10	26	Adaptive Jaya Optimization Technique for Feature Selection in NSL-KDD Data Set of Intrusion Detection System	BhaskarThupakula, Tryambak Hiwarkar and KongaraRamanjaneyulu

### Track: 2: Embedded System Design

Session Chair -  
Dr. Tiwari , Mrs. Ashvini Jadhav

Date: 17-05-2019 Time: 2 to 5PM

Venue: L2

Sr.	Paper ID	Title of the paper	Authors
1	09	Real Time Arrival Prediction And Vacancy Detection for Smart City Bus	KunalRamdasi, RutujaKashid and Pratik Patil
2	18	Multiple Subspace Pursuit joint recovery algorithm based on signal correlationWireless sensor network oriented to rail transit environment	Ma Yiyan
3	24	Smart Viewer Counter for Digital Billboards	Shreya Uppala, Ashish Sharma, Gaurav Sanas and Yogesh Murumkar

4	85	Online Smart Ration Card With Multifactor Authentication	BharatiKamble, Neha Dambe, Shriram Kulkarni and Gauri Virkar
5	92	Talking Hand For Vocally and Visually Impaired People	ChinmayZade, Chankit Turkar and Shubham Tiwari
6	94	Smart Dustbin With Auto Follower Path Trolley	AbhijeetWaghmare, Amol Degaonkar, Mohini Bali and Prof. ManjushaPatil
7	146	A Robotic Framework for Simulation and Control of SCARA Robot Based on ROS	UjwalShirode, Aishwarya Kadam, AishwaryaAher and Pallavi Bale
8	39	Arduino Based Smart Bell System	Hitesh Daundkar, Sankalp Hande, Shubham Chintalwar and Prachi Jeevane
9	102	Smart Fan Contrlled by Using IR Remote	Pratik Dodake, Pooja Kamble, KalyaniKakad and SnehalBhaladhare

### Track: 3: Emerging Technologies(RF/Communication)

Session Chair -

Dr. Bhalke , Mr. Sagar Joshi

Date: 17-05-2019 Time: 2 to 5PM

Venue: L3

Sr.	Paper ID	Title of the paper	Authors
1	10	Design of Concurrent Dual-Band Filters for GSM Application	Shweta Sonawane and Minakshi Panchal
2	11	Design of Multifunctional Wideband Microstrip Bandstop Filter	DikshitaSheth
3	22	Snake Species Recognition using Tensor Flow Machine Learning Algorithm & Effective Convey System	Dhanesh Sarpale, Rohan Sapkal and Apeksha Rajput
4	31	Object detection using Convolutional Neural Network	Piyush Jhinkwan, Vaishali Ingale and Shubham Chaturvedi
5	51	Blockchain Based E-Voting System	Prathmesh Ladkat, HarshalPatil, Abhishek Jituri and Rohit Desai
6	121	Early Placement Prediction System for Engineering Students of Indian Universities	Vijay Katkar and Sharan Iyer
7	133	Performance analysis of Index modulation	SohanJuvale, Mansi Nikam, SagarVirkar, Aditya Singh and Namita Agarwal
8	120	Crowd Anomaly Detection Using Optical Flow Algorithms	Neeta Nemade and VinayaGohokar

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NUTAN COLLEGE OF ENGINEERING & RESEARCH, PUNE

9	113	Three-coil Inductive Power Transfer Using A Direct AC-AC Converter Topology for EV charging Application	SurendrakumaranUdayakumar and AlameluNachiappan
10	137	Real time Facial Expression Recognition using Deep Learning	IshaTalegaonkar, Kalyani Joshi, Shreya Valunj, RuchaKohok and AnaghaKulkrani
11	136	Inter Frame Video Forgery Detection using Multi Scale Normalized One Level Subtraction	Rahul Parmani, SohamButala, AakashKhanvilkar and SachinPawar

### Track: 4: DIP/Machine Learning

Session Chair -  
Dr. Swati Shinde , Mrs. Sarika Patil

Date: 18-05-2019 Time: 8.45 to 10.45 AM Venue: L1

Sr.	Paper ID	Title of the paper	Authors
1	17	Face Authenticity: An Overview of Face Manipulation Generation, Detection and Recognition	Zahid Akhtar, Dipankar Dasgupta and Bonny Banerjee
2	38	Cascaded Finite-state Chunk Parsing for Hindi Language	Priyanka Jain, Karimullah Shaik, Ajai Kumar, Hemant Darbari and VirendraBhavsar
3	42	A Variable Sample Selection Technique for Audio Steganography Re-conciliated with RC4 Cryptography	Rashmi Naveen and DrJyothi K
4	71	Indian Sign Language recognition using SVM classifier	Deepali Mali, Nitin Limkar, Satish Mali and Jyoti Kadam
5	27	Indian Sign Language Alphabets Recognition from Static Images using Correlation-Coefficient Algorithm with Neuro-Fuzzy Approach	HeminaBhavsar and Jeegar Trivedi
6	29	SEM Medical Image processing using VLSI	Parvatham Vijay and Bharathi R
7	134	Detection of Lung Nodule in Computed Tomography image using Deep Machine Learning: A review	MahenderNakrani, Ganesh Sable and Dr. Ulhas Shinde
8	105	Smita Bhanap and Dr. Seema Babrekar	Feature Selection and Polarity classification using Machine Learning algorithms NB & SVM

### Track: 5: Modern Electrical Engineering Applications

Session Chair -  
Mr. Limaye Mr. Begade

Date: 17-05-2019 Time: 2 to 5PM

Venue: L1

Sr.	Paper ID	Title of the paper	Authors
1	16	Energy consumption Estimation framework at Source Level for the Data centers	Manjushree Hingamire and Ramkrishna Vadali
2	28	A Innovative Technique to Generate Alternating Current through Solar Panel without Inverter	Omkar Malve, Sushant Shinde, Abhijeet Mane and Snehal Bhaladhare
3	35	PLC Based Fault Location, Isolation and Service Restoration for Distribution System	Priyanka Shende, Akshay Thakur, DurgeshMuley and Santosh Gadekar
4	44	Oil Test and Insulation Test of 100 KVA Distribution 3 Phase Transformer	Parikshit Patil, Nitish Torne, Ganesh More and Nitesh Anwat
5	45	Review Paper on Electric Vehicle Charging and Battery Management System	SunildattaKadlag and Mukesh Kumar Gupta
6	49	An Improved Method for Protection of Three Phase Induction Motor Using Arduino.	Rahul Dandale, Amol Chavan, Vaibhav Falke and Sahebrao Patil
7	62	Online Parameter Monitoring And Speed Control of DC Motor Using CAN Protocol	AvinashAhire, Amol Jadhao, Tejal Kadam and Swapnil Narkhede

### Track:6: Next Generation Computer Technology

Session Chair -  
Dr. Anant Bagade , Mr. Krishna Tayade

Date: 18-05-2019 Time: 8.45 AM to 10.45 AM

Venue: L3

Sr.	Paper ID	Title of the paper	Authors
1	55	Business Analytics for Yelp Reviews using R	Dhanashree Kulkarni and Priyanka Patil
2	84	Detection of Insider Attack in Distributed systems	Vikar Shaikh and Prof. Tanuja R Pattanshetti
3	89	Phishing Attack Detection using Feature Selection Techniques	Aniruddha Joshi and TanujaPattanshetti
4	90	An analysis on choosing a proper Survey software	Prashik Hingaspure and Archana Patil
5	143	A Review of Soft Computing Technique for Real-Time Data Forecasting	Shabana Tamboli and Laxmi Bewoor
6	144	A Review for Semantic Analysis and Text Document Annotation Using Natural Language Processing Techniques	Nikita Pande and MandarKaryakarte
7	145	A Comparative Analysis of Intrusion Detection Techniques: Machine Learning Approach	Komal Rasane, Laxmi Bewoor and Vishal Meshram



8	166	Chatbot For Relieving Stress	Ruchika Puttoo, Aafiya Shaikh, Sayli Shrivastav, Dipti More and Dr. Swati Shinde
9	130	Freight Analysis Using YOLOv2	Avinash Powar, Snehal Kadam and Akash Hatalge

### Track: 4: Digital Image Processing

Session Chair -  
Mr. Shripad Wakodkar , Mrs. Neeta Karhadkar Date:18-05-2019 Time: 2 to 5PM Venue: L1

Sr.	Paper ID	Title of the paper	Authors
1	86	Application for Drug addicts using Artificial Neural Networks	Ankit Junghare, Karina Milani, Mahesh Chavan and Vishwas Ransing
2	147	Brain Tumor classification using shape analysis of MRI images	BhagyashriAsodekar and Sonal Gore
3	106	Leaf Detection by Extracting Leaf Features with Convolutional Neural Network	Chitra Patil and Swati Shinde
4	128	Comparative Analysis of Lung Segmentation Techniques	Rochelle D'Sa, Kelvin Lewis, Jovita Pereira, Vicky Thomas and Satishkumar Chavan
5	129	A Review on Diversified Mechanisms for Multi Focus Images Fusion	Uma N. Dulhare and Areej Mohammed Khaled
6	155	Detection of Diabetic Retinopathy using Convolutional Neural Networks	Ajit Singh, Amit Singh, Pravendra Singh, Hareshyam Sharma and Ashwini Sapkal
7	140	Analysis of Fundamental Frequency, Jitter and Shimmer in Stuttered and Non Stuttered Speech of Marathi Language	Swapnil D Waghmare
8	148 150	Invisible Video Water marking for Data Integrity and Security based on Discrete Wavelet Transform – A Review	Nitin Dhawas and Sambhaji Patil
9		A Novel Region Duplication Detection Algorithm based on Hybrid Approach	KshipraTatkare and Dr. Manoj Devare
10	156	Review On Marathi Speech Recognition	Shital Joshi, Vaishali Bhagile and RatnadeepDeshmukh
11	13	Video Steganography using Edge Detection Techniques	DipikaDeshmukh and Dr.GajananKurundkar

### Track: 5: Modern Electrical Engineering Applications

Session Chair -  
Dr. Navnath Naravade, Mr. Ramdas Biradar

Date: 18-05-2019 Time: 2 to 5PM

Venue: L2

Sr.	Paper ID	Title of the paper	Authors
1	64	Energy Efficiency and Conservation at Residential Sector	Nilesh Kekan and Pradeep Taware
2	65	Transformer Parameter Monitoring and Protection System Based on Arduino	Prasad Kumbhar, Najuka Jawale, Ganesh Kurle and AkshayShinde
3	77	Analysis Of 1KW Solar Rooftop System	Apurva Gune, Sneha Gadge, Sarang Dhandare and Nilam Ghuge
4	83	Fault Monitoring of Solar Panels using Wi-Fi	Dnyaneshwar Panzade, Prasad Pathak, Mansi Shastri and Kalyani Zanak
5	93	Microcontroller Based Closed Loop Constant Speed control System For variable load of Single Phase Induction Motor	Omakar Chandanwar, Rishabh Babar, Saurabh Kande and ManjushaPatil
6	104	Formulation Of Mathematical Model For The Vibration Response Of Machine Components Placed On A Shaft Supported By Six Journal Bearings	Dr.Girish Mehta, Prakash Awasarmol, Krunal Mudafale, Vishal Kaushik and Piyush Sirsat
7	109	Harmony Vertical Axis Wind Turbine	Kalpana Malvadkar, Akash Mali, Namrata Yemul and Mrutyunjay Patted

## Dr. Dattatraya Parle

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### PROFILE

- MTech & PhD in Mechanical Engineering from IIT Bombay.
- Approx. 19 years of work experience.
- Founder and technology expert at Simulation Centre, Pune.
- Worked as a Technical Head of Knowledge Base Engineering (KBE) & Emerging Technologies Centre of Excellence, Advanced Engineering Group at Infosys.
- Providing Technical Leadership in Core Engineering (CAD, CAE, CFD) and Emerging Technologies (Virtual Reality, Augmented Reality, IoT, Analytics, Robotics, etc.) to the Aerospace, Automotive, Oil and Gas, Nuclear and Bio-medical engineering industries.
- Led the Emerging Technologies (Virtual Reality, Augmented Reality, Analytics and Industrial IoT) teams and won 1M\$+ project deal from Google during 2017.
- Approx. 10M\$+ direct and indirect revenue influence through execution and support of many projects and proposals in Infosys.
- Created excellent branding for Engineering Infosys by winning 7 out of 10 external awards.
- Innovative works featured in Infosys Annual Reports for four consecutive years (2014-2017).
- Consistently top performer (Highest rating for consecutive 8 years).

#### AWARDS AND HONOURS:

- Felicitated by GR Foundation for contribution to Industry, Academic and R&D sectors, 2017
- Won Infosys Excellence Awards for four consecutive years, 2017, 2016, 2015, 2014
- Innovative works featured in Infosys Annual Reports for four consecutive years 2014-2017
- Nominated for Golden Peacock Award in the category of Innovative Product/Service Award for Advanced Simulations in Biomedical Engineering from Infosys, 2014
- Work on Dental Implant got selected for EDS Technologies Calendar, 2016
- Work on Biomedical Engineering got selected for Altair Desktop Calendars for four consecutive years 2016, 2015, 2014, 2013
- Won best desktop calendar image award from Altair, 2015

### AWARDS AND HONOURS:

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Work on Dental Implant got selected for EDS Technologies Calendar, 2016  
Work on Biomedical Engineering got selected for Altair Desktop Calendars for four consecutive years 2016, 2015, 2014, 2013  
Won best desktop calendar image award from Altair, 2015  
Winner of Simulating Reality Contest conducted by MSC Software for two consecutive years 2014 and 2013 for innovative solutions in biomedical engineering  
Four best paper awards at ANSYS, MSC and Altair Conferences during 2011-2016  
Runners up of the Strategy Action and Planning Quiz at Infosys, 2012  
Won award for demonstrating "Innovative Teaching" at Infosys Ltd, September 2010  
Winner of Best Innovative Project Idea and Mentorship at Infosys Ltd, May 2010  
Winner of Best Innovator for developing Buckling Analysis Tool at Infosys, July 2009  
Winner of KUDOS for ShipRight SDA of Lloyd's Register at Geometric Ltd, 2009  
Winner of Solver Translator Software proposal contest at Geometric Ltd, 2008  
Winner of GUI Design Contests at Geometric Limited, 2007  
Ranked fifth at Orientation Course for Engineering Postgraduates at BARC, 2002  
Second Rank at Virtual Instrumentation Mantra – 2001 Conference, Bangalore, 2001  
Ranked First in Dr. Babasaheb Ambedkar Marathwada University, Aurangabad during first year to third year and ranked second in the final year of B.E. (1995-1999)

### TECHNICAL PUBLICATIONS / TALKS:

Journal Publications	Case Studies	Conference Proceedings	LinkedIn Articles	Invited Technical Talks	Trainings	Career Counseling
#6	#1	#32	#2	Many across forums academia and industry		

## Aniruddha Barve

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He is an Automotive Electronic Systems professional, with total experience of 20 plus years in full product development lifecycle and project management, and automotive program management.

Areas of work include automotive body electronics, Electrical vehicles, battery management systems, Vehicle architecture and systems engineering.

He has worked with German, Japanese, English and Indian automotive Clients.

His Bachelor's degree (BE E&TC) from Pune University in 1994 and Masters (ME Electronics-Digital Systems) from Pune University in 2000

He Worked for 4 years in industrial automation, and 15 years in automotive industry.

Headed CG Corel Pune centre for 2 years. Worked with L&T Emsys, Tata Elxsi and KPIT Technologies.

At client locations, he has worked in Jaguar Land rover UK for 4.5 years in vehicle integration. He worked at Mitsubishi Japan and Ficoso Spain on short assignments in automotive systems engineering.

He also served at Govt. college of Engineering Pune for 4 years, as a lecturer in Electronics and Telecommunication engineering. He is closely associated with academics during past two decades. Currently he is a member of BOS for an autonomus University.

Topic:

Communication in Automotive systems today, and future scope

Date: 18 May 2019

**ICCIP 2019**  
**All Track**  
**Contributed Papers**

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## Design of Multitier Energy Efficient Secure Sensor Network Vinayak Musale<sup>a</sup> and Devendra Chaudhari<sup>b</sup>

<sup>a</sup>Department of Computer Science and Engineering, GCoE, Amravati, Maharashtra, India 444604.

<sup>b</sup>Department of Electronics and Telecommunication Engineering, GCoE, Jalgaon, Maharashtra, India 425001.

**Abstract:** Wireless sensor network is one of the fastest growing technology for a variety of applications. The main concern in such WSN applications is how to increase lifetime of such networks as they mostly built on sensor nodes which are typically failure-prone and have limited battery power. One of the major solution identified for this is to reduce the energy consumption, and it mainly depends on two factors as the transmission range and amount of data transferred. In this paper, a cross layer approach is used to propose an energy-efficiency and extend the life time of the sensor network which focuses on inter-working of Network and MAC layer. Along with this approach proposed Multitier Energy Efficient Secure Sensor Network (MEESSN) also introduces low cost finding protocol to save energy consumption at node level. The use of MSP 432 ultra-low power microcontroller with routing protocol in the design also enhances power usage of sensor node.

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## Real Time Rainfall Monitoring and Flood Control System using Wireless Sensor Network

K.C.Nalavade, D.S.Shingate and P.C.Patil

Sandip Institute of Engineering and Management, Nashik

**Abstract:** Heavy rainfall and floods are natural disasters occurring in unexpected magnitudes and frequencies can cause loss of lives, livelihoods and infrastructure in various parts of world. Early warning is important for saving lives and property and for providing information to facilitate evacuation from floodplains in particular. By giving sufficient advance notice in a clear and informative manner, the damage from disasters can be mitigated considerably. The role of the Rainfall Monitoring and Flood Control System (RMFC) based on WSN is to continuously monitor, detect and report the environment's status to a control unit using relative moisture, temperature, water level and amount of rain as flood indicators, whose values are gathered by sensors in the area of field. The Rainfall Monitoring and Flood Control System monitors the development of flood and send alert messages to the occupant of such zones for necessary action.

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## Real Time Arrival Prediction and Vacancy Detection for Smart City Bus

Kunal Ramdasi, Rutuja Kashid and Pratik Patil

Zeal College of Engineering and Research, Pune-India

**Abstract:** As we know the India has Most Crowded city in the world. Indian Govt provided number of transportation facility to people to overcome problem of Conjunction. In India, private as well as public transport systems are available. So, when we speak about public transport, we always think about crowd and available vacancy in it. The public transport system having issues like bad condition of vehicles, time of arriving bus etc. So user get stucked, so to overcome all this problem we are proposing the Real-time Bus Tracking System with Available Seats/Vacancy in it.

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## Design of Concurrent Dual-Band Filters for GSM Application

Shweta Sonawane and Minakshi Panchal

Dept. of E&TC Engineering, Dr.Babasaheb Ambedkar Technological University, Lonere India

**Abstract:** In this paper, concurrent dual band filters are designed and stimulated using CST software. This system has Notch filter with an operating range 720MHz to 920MHz and Dual-band Band pass filter with an operating range of 700MHz to 1.8GHz. Dual bands are obtained between 0.98-1.02 GHz and 1.47-1.57GHz. The Notch and the Band pass filter are both designed with the help of microstrip structure with a material called FR4 with relative dielectric constant 4.4 and order 2. Band pass filter is designed using two step impedance resonator. Notch filter structure is designed by placing a single stub between the load of the microstrip and its source. The change in the filter output with the change in the length as well as width if the stub is noted. The band of the filters changes according to the dimensions of the stub. Thus, the range of the filters can be adjusted accordingly by changing the stub dimensions.

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## Design of Multifunctional Wideband microstripbandstop Filter

Dikshita Sheth

Dept. of E&TC Engineering, Dr.Babasaheb Ambedkar Technological University, Lonere India

**Abstract:** This paper introduces a multifunctional wide band microstripbandstop filter at X-band and c-band communication. The proposed bandstop filter has wide bandwidth from 6 to 9 GHz. This can be used for vehicular communication due to its compact size, light weight and excellent performance. This multifunctional wide band microstrip filter is designed using transmission line with four arrow shaped strips inserted between square ring stub on top side and ground plane at the bottom side. By varying dimension of four arrow-shaped strips in square-ring stub, operating frequency can be varied. The proposed filter is fabricated using FR4 substrate having a dielectric constant of 4.4 and with size 10×15×0.8 mm<sup>3</sup>.

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## Video Steganography using Edge Detection Techniques

Dipika Deshmukh<sup>a</sup> and Gajanan Kurundkar<sup>b</sup>

<sup>a</sup>SRTMU,Nanded 431606,India, <sup>b</sup>GuruBuddhiswami College,Purna 431511,India

**Abstract:** For transmitting secret information, security is very important because hackers may utilize weak link over communicate network to take desired information. Video Steganography is the process of hiding some secret information inside a video. The addition of this information to the video is not perceptible by the human eye as the change of a pixel color is minor. In this paper, I have designed new algorithm to hide the data into video. Hidden data has been taken as text and hide it into frames of video.



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## Lightweight Data Transmission Scheme based on Data Aggregation Technique in Wireless Sensor Networks

Nada Al-Humidi and Girish V. Chowdhary

School of Computational Sciences, S.R.T.M University, Nanded, India

**Abstract:** Wireless sensor networks are applied to collect the required data by using radio wireless communication. Data generated from neighboring sensor nodes is highly related and redundant which resulting in high traffic load, the end to end delay, and subsequently, consuming more energy and decreasing the lifetime of the network. Hence, there is a dire need to propose a scheme for transmitting the sensing data in high-quality information, reducing the number of packets transmitted and at the same time conservation of energy. This can be accomplished by data aggregation technique. In this paper, a lightweight data transmission scheme based on data aggregation technique is proposed. The proposed scheme aims to collect data from the sources and makes it available to the sink in an energy efficient way with minimum data latency. The performance of the proposed scheme is evaluated through analysis, comparison, and simulation. The results show that the proposed scheme is highly efficient, and it has a better performance in term of energy saving, end-to-end delay, and throughput.

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## Multiple Subspace Pursuit Joint Recovery Algorithm Based on Signal Correlation (SC-USP): WSN Oriented to Rail Transit Environment

Yiyan Ma

Beijing Jiaotong University, Haidian District, Beijing 100044, China

**Abstract:** This paper is oriented to the wireless sensor network (WSN) application scenario in the railway transit environment, focusing on the large amount of signal transmission and data processing requirements required, making full use of the advantages of compressed sensing (CS), combined with existing mainstream compressed sensing technology such as Subspace Pursuit (SP). The technique of "Multiple SP Joint Recovery Based on Signal Correlation" (SC-USP) algorithm for a specific type of data signal is proposed. Finally, the simulation analysis shows the superiority of SC-USP in similar algorithms and application scenarios.

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## Cascaded Finite-state Chunk Parsing for Hindi Language

Priyanka Jain<sup>a</sup>, Karimullah Shaik<sup>a</sup>, Ajai Kumar<sup>a</sup>, Hemant Darbari<sup>a</sup> and Virendrakumar C. Bhavsar<sup>b</sup>

<sup>a</sup>Centre for Development of advanced Computing, India <sup>b</sup>University of New Brunswick, Fredericton, NB, Canada

**Abstract:** The Cascaded Finite-state Chunk Parsing for Hindi Language (CFC) is a deterministic bottom-up version based on an LR parser that employs a best-first search. It uses finite-state cascade as a sequence of strata. Each stratum is defined by a category and a set of regular-expression patterns for recognizing phrases. Phrases at one level are built on phrases at the previous level. The final chunk structure is a multi-level sequence to span the entire text as single parse tree. Our research is presented with a design, implementation steps and result analysis. Though, we present a case study for an Indian language i.e. Hindi, it is language independent approach and extendible for further scope.

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## An Innovative Technique to Generate Alternating Current through Solar Panel without Inverter

Omkar Malve, Sushant Shinde, Abhijeet Mane, Snehal Bhaladhare

BSIOTR, Pune-India-412207

**Abstract:** Now a day we are generating huge amount of energy from conventional sources like coal, oil but this sources are limited in nature and their production and extraction is quite difficult. We should go for the renewable sources in spite of conventional because they are freely available and are unlimited. Solar plays important role in the renewable energy. We are getting DC power from solar panel and it store in battery but our residential, commercial load is AC so DC energy from battery is converted into AC energy by using inverter. This conversion process takes place huge losses and also there is a maintenance of battery and inverter. This produces huge e-waste and cost of the system. In our project we are generating AC energy from solar panel directly. In this solar panels or cells are divided into two groups i.e. odd and even as per voltage and current requirement we do series and parallel combination of solar cell and both group are connected in phase opposition. Above this cell there is one rotating disc rotated by DC motor which is powered by other solar panels. Rotating disc is cut in slotted structure to pass the solar rays on alternate solar cells. So it will produce AC energy directly. It will reduce huge cost losses and e-waste.

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## Snake Species Recognition using Tensor Flow Machine Learning Algorithm & Effective Convey System

Dhanesh Sarpale, Rohan Sapkal and Apeksha Rajput

Zeal College of Engineering & Research, Pune-India

**Abstract:** Snake plays an important role in the ecosystem. Recognition of the snake species is necessary for planning treatment, but it is not always feasible. Snakebite is may be fatal, local information about snake may not be enough to identify the snake species. Attempt to capture an offending snake or kill the snake is not recommended also dangerous. Proposed system is introduced to recognize the snake species accurately in less time. In addition to this effective convey system is integrated to convey snake species to nearest snake catcher and emergency centre.

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## SEM Medical Image processing using VLSI

Parvatham vijayand Bharathi R

PRIST Deemed to be University, Vallam, Thanjavur, Tamil Nadu, India

**Abstract:** The aim of this paper is to reduce the size of the Scanning Electron Microscope (SEM) medical images for Tele-radiology applications using VLSI technology. From the highly magnified images, diseases can be deeply analyzed; an efficient way to measure blood cell count and it is also used to diagnose the presence of many life-threatening diseases such as leukemia, allergies, etc. SEM medical images such as lung, respiratory system, red blood cells, white blood cells, scaffold, kidney stone, etc., are taken for MIC

(Medical Image Compression). Lossy image compression is used for compressing SEM medical images and discrete wavelet transform is used for this purpose. Modified Parallel and pipelined architecture (MPPA) is used for implementing SMIC. The area occupied by this architecture is very less and the speed of operation is high compared to other architectures.

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## Indian Sign Language Alphabets Recognition from Static Images using Correlation-Coefficient Algorithm with Neuro-Fuzzy Approach

Hemina Bhavsar<sup>a</sup> and Jeegar Trivedi<sup>b</sup>

<sup>a</sup>S.S.A.I.C.S, Gujarat Technological University, Chandkheda, Ahmedabad, India

<sup>b</sup>Department of Computer Science & Technology, Sardar Patel University Anand, India

**Abstract:** Sign Language is a language used by mute people to communicate with other person by expressing their thoughts in the form of signs. Signs are expressed by hand and face movement. This paper describes proposed methodology for design and implementation of Alphabets recognition system of Indian sign language where static images of hand gesture are used as an input. Methodology includes various image processing techniques to remove unnecessary noise and to make images smooth. This Paper describe Correlation-coefficient algorithm which has been used for feature extraction and Neuro-fuzzy algorithm which has been applied as recognition algorithm. Proposed technique has been implemented on database of 100 images for testing. Implementation has been done on Matlab. Average accuracy of proposed methodology is 92.30%.

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## Object Detection Using Convolution Neural Networks

Piyush Jhinkwan, Vaishali Ingale and Shubham Chaturvedi

Department of Information Technology, Army Institute of Technology, Pune -411015, India

**Abstract:** Accurate and efficient object detection has been an important topic in the advancement of computer vision systems. With the sophistication of deep learning techniques, the precision of object detection has increased drastically. A huge number of visually impaired people in the world have inspired many smart solutions which use sophisticated technologies to aid them in their day to day life. This paper describes a system that aims to perform object detection with the goal of achieving high precision with acceptable real-time performance. The system is designed to help the visually impaired locate day today objects through object detection. The system is trained on CIFAR-100 [1] dataset which consists of 100 classes where each class has 500 training samples and 100 testing samples. The total training size is 50000 samples and the testing size is 10000 samples. The experimental results are determined by using convolution neural network combined with dropout, batch normalization and data augmentation..

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## PLC Based Fault Location, Isolation and Service Restoration for Distribution System

Priyanka Shende, Akshay Thakur, Durgesh Muley and Santosh Gadekar

BSIOTR, Wagholi, Pune 412207, India

**Abstract:** Fault location, isolation, and service restoration (FLISR) includes automatic sectionalizing and restoration, and automatic circuit reconfiguration. These applications accomplish DA operations by coordinating operation of field devices, software, and dedicated communication networks to automatically determine the location of a fault, and rapidly reconfigure the flow of electricity so that some or all of the customers can avoid experiencing outages. As FLISR operations rely on rerouting power, they typically require feeder configurations that contain multiple paths to single or multiple other substations. This creates redundancies in power supply for customers located downstream or upstream of a downed power line, fault, or other grid disturbance.

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## An IOT Based Solar Power Robotic Tracking & Monitoring System

Pragati Gunjal, Aniket Gore, Indrajeet Khot and Kalyani Zanak

BSIOTR, Wagholi, Pune and 412207, India

**Abstract:** Now a day's solar power is very helpful in our everyday life. This power is used in many ways such as homemade electrical appliances, vehicles, satellites and industries etc. The title of this project is "An IOT Based Smart Solar Power Robotic Tracking & Monitoring System". In simple terms this project's objective is to have a solar panel outputting its maximum possible power all day long, this occurs when the panel tracks the sun and rotates accordingly, to receive sunlight to the fullest extent always during the day time. Using IOT for supervising solar power generation can greatly enhance the performance, monitoring and maintenance of the plant. With advancement of technologies the cost of renewable energy equipment is going down globally encouraging large scale solar plant installations.

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## Business Analytics for Yelp Reviews using R

Dhanashree Kulkarni and Priyanka Patil

Department of E&TC Engineering, DIT, Pimpri, Pune

**Abstract:** Now-a-days online reviews plays a very important role before taking any decision about having a lunch or dinner at Restaurants or planning any trip. In this paper, we have investigated the dataset from Yelp.com. Yelp has become a very important site, particularly for small businesses who can achieve success or close down, based on their online reviews. We have summarized all the effects of reviews on the restaurants using sentiment mining and have provided with the statistical Insights. Our approach is to create a study on the business which yielded the worst and best ratings and determine the users who gave the worst and best ratings by using R software which is a statistical tool. The model has been created and the results for the same are obtained.

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## Review on Electric Vehicle Charging and Battery Management System

Kadlag Sunildatta Somnath<sup>1</sup> and Mukesh Kumar Gupat<sup>2</sup>

<sup>1</sup>Research Scholar, Suresh GyanVihar University, Jaipur(Rajasthan),India

<sup>2</sup>Professor, Suresh Gyan Vihar University, jaipur(Rajasthan),India

**Abstract:** Battery powered electric vehicles are gaining popularity worldwide. This trend is driven by several factors including the need to reduce air and noise pollution, and dependence on fossil fuels. The main drawback of today's electric vehicle is its limited range, and the long-time duration that is required to charge the electric batteries. In recent years, significant progress (through research and development) has been made to accelerate the charging time of the electric vehicle batteries through pulse charging rather than supplying continuous current and/or voltage. The part to be focused on estimation of electrical parameters of the battery in the electrical vehicle, which is the most important factor to get information about possible available driving range. If the amount of remaining battery capacity can be displayed for the driver then it is possible to make decision on the time of recharging the battery. To know battery behavior under different conditions, it is necessary to know various battery performance parameters.

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## Smart Viewer Counter for Digital Billboards

Ashish Sharma, Yogesh Murumkar, Shreya Uppala, Gaurav Sanas

Zeal college of Engineering and research Pune 411041, India

**Abstract:** This paper presents an approach for counting the number of people that are watching their advertisements on signals, near some specific area of interest. This would give the advertising company/advertisers that whether or not to show this particular advertise in that particular area. This will be helpful for organizations to make decision on spending money on advertising or to change the theme or strategy of advertise or to advertise in that area or not.

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## Oil Test and Insulation Test of 100 KVA Distribution 3 Phase Transformer.

Patil Parikshit, Torne Nitish, More Ganesh and Nitesh Anwat

Department of Electrical Engineering, JSPM's BSIOTR, Wagholi, Pune, Maharashtra, India

**Abstract:** Transformer is one of the most important part of distribution and transmission process of power. A transformer has to go through different testing procedures in manufacturer's premises to prove that the transformer meets customer's specification and design expectations. Type test of transformer confirms basic criteria of production lot. Moreover, for confirming operational performance of individual unit in a production lot routine test is done. This paper discusses about two different types of distribution transformer testing. A distribution transformer or service transformer is a transformer that provides the final voltage transformation in the electric power distribution system, stepping down the voltage used in the distribution lines to the level used by the customer. Here we have tried to give an overview about the insulation resistance test and transformer oil test conducted in distribution transformer of rating 100KVA.

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## A Variable Sample Selection Technique for Audio Steganography Reconciliated with RC4 Cryptography.

Rashmi N<sup>a</sup> and Jyothi K<sup>b</sup>

<sup>a</sup>Dept of ISE, NMAM Institute of Technology, Nitte-574110, Karnataka, India

<sup>b</sup>Dept of ISE, JNNCE, Shimoga-577204, Karnataka, India

**Abstract:** As real time applications in today's century, makes use of digital data, security of this data becomes important and essential. Different aspects to be considered while dealing with such digital data are preserving authenticity, make sure that data is not modified in transit and no one else other than intended user can read this data. To fulfil these requirements, many techniques are available to protect this data. Cryptography is to jumble the original information so that unauthorized person can't see it and that of steganography is to hide the original information. These techniques have their respective pros and cons. The main intention of the presented technique is to re-conciliate cryptography with steganography and give better protection.

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## An Improved Method for Protection of Three Phase Induction Motor Using Arduino

Rahul Dandale, Amol Chavan, Vaibhav Falke and S.N.Patil

JSPM's BSIOTR, Wagholi, Pune, Maharashtra, India

**Abstract:** Recently observed that the conventional method used for protection for three phase induction motor is taking time to operate and the cost of the system is high. So to overcome this, there is need of a protection system which can operate in less time and has low cost. The mission is to create a system which has slow cost and fast operation. This condition gave the basic idea about what was required in current Scenario. The idea was to create a system which is cheap and will reduce the operation time. The system has the ability and the economic value to for fulfilling the protection of three phase induction motor. This system is cost effective and easy to maintain. This paper addresses to make a cheap and reliable protection system for three phase induction motor. The protection system should protect the motor from voltage unbalancing, single phasing, under voltage, over voltage and thermal protection. To improve the technique to run the motor below single phasing. Taking the cost factor into consideration the design has been proposed using Arduino, relays, small CTs and PTs. However the sensitivity of the protection scheme has been not compromised.

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## ANALYSIS OF 1KW SOLAR ROOFTOP SYSTEM

Sarang Dhandare, Sneha Gadge, Apurva Gune, Dr. N. N. Ghuge

Department of Electrical Engineering BSIOTR, Wagholi, Pune-India

**Abstract:** The exhaustion of conventional resources and its effect on climate requires an urgent call for the substitute power resources to invite up the current power requirement. Solar energy is an endless, unsoiled and prospective energy source among all other non conventional energy options. As more concentration is being done on focal point for the development of renewable energy capital globally. To detect their feasibility it is necessary to do the economic and technical assessment of the resources. In the recent Era of Electrical system development, the solar PV plays an important role in the energy conservation. This paper describes a complete analysis of 1 KW solar rooftop system. For this purpose we have installed 1KW solar rooftop system by considering the load forecasting, electrical design parameters, fabrication of structure by considering mechanical parameters and environmental consideration.

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## Indian Sign Language Recognition Using SVM Classifier

Deepali Mali, Nitin Limkar and Satish H. Mali

Department E&TC, JSPM's BIT, Barshi 413401, India.

**Abstract :** Sign language is the medium of communication for the hearing impaired people. It uses gestures instead of sound to convey meaning. It combines hand-shapes, orientation and movement of the hands, arms or body, facial expressions and lip-patterns for conveying messages. Different types of project are done against deaf, mute, hard hearing people. A system with computer human interface is proposed for sign language recognition. But there is country wide variation available in that project. The main idea of this project is design a system which is useful for communication of that people with outside world in any public places, so that no need to interpreter in public places.

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## Energy Efficiency and Conservation at Residential Sector

Kekan N.R. and Taware P.R.

S.B. Patil College of Engineering, Indapur, India

**Abstract:** This paper provides study of the Energy Efficiency regulatory framework as well as current financial saving mechanisms and conservation available in the building sector. The review has found that some of the existing Energy Efficiency method, Conservation Method financing schemes has been successful while others could little bit lagging on other existing schemes to improve its effectiveness. Right now the problem is Careless towards the energy usage, Use of existing electrical and electronics home appliances and rating of appliances. This study is proposes an automatic demand response system for lighting based on wireless sensor networks (WSN) in order to reduce the peak electricity. This method take care of lighting control according to need of luminance of light. The review will explore the strengths and gaps of the available schemes and will propose some, so that we will utilize that energy in rural areas, villages where light is not reached till date. ways to increase the uptake Energy Efficiency & Conservation Method.

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## Transformer Parameter Monitoring and Protection System Based on Arduino

Najuka Jawale, Prasad Kumbhar, Ganesh Kurle and A.A.Shinde

Department of Electrical Engineering, JSPM's BSIOTR, Wagholi, Pune 412207, India

**Abstract:** A system is designed to monitor the Transformer throughout its operation, using Arduino. Also a protection scheme is employed with the help of the relay circuit. An LCD is associated with arduino which continuously displays the transformer's parameters. Values of parameters like current, temperature, voltage and oil level are pre-set in the system already, when the values are exceeded buzzer sets the alarm to indicate that a fault has occurred and simultaneously the values are updated over Wi Fi. Further if the fault is severe the relay circuit will operate and the system will shut down. Different circuits like current sensor, voltage sensor, ultra-sonic sensors, lm35, etc. are used to monitor the parameters and pass the data to arduino. After receiving the data these values are compared with the predetermined values and actions are taken accordingly.

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## Online Parameter Monitoring and Speed Control of DC Motor Using CAN Protocol

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Department of Electrical Engineering, JSPM's BSIOTR, Wagholi, Pune, Maharashtra, India.

**Abstract:** This paper depicts how to control the DC engine dependent on the parameter like temperature changes utilizing CAN convention usage. This Paper identifies with the Control of DC Motor dependent on the temperature changes that happen in a procedure in Industry. The LM-35 arrangement is accuracy incorporated circuit temperature sensors, whose yield voltage is straightforwardly corresponding to the Celsius (Centigrade) temperature. The changes in Temperature is estimated by ADC and transmitted to another hub utilizing the CAN Bus and the information is gotten at another hub dependent on connection to the information got the speed of the DC engine is Regulated utilizing the Pulse Width Modulation Technique. The Controller Area Network (CAN) is a Serial, Asynchronous, Multi-ace correspondence convention for associating electronic control modules in Automobile and mechanical applications.

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## Phishing Attack Detection using Feature Selection Techniques

Aniruddha Joshi and Tanuja Pattanshetti

College of Engineering Pune, Wellesly Road, Shivajinagar-Pune

**Abstract:** The cyber security problems are increasing nowadays due to the growth of internet world wide. As phishing links have different features it becomes very difficult to mitigate different security issues. In phishing attack attacker creates a replica of existing link or webpage to fool the user to get access to the personal information such as credit card or debit card passwords and try to convince the victim that the message originates from the proper source. As phishing links involves around 20 to 40 features it becomes somehow difficult to address each feature so features selection algorithms selects important features which are relevant to the attack. The proposed system has selected important features of URL using machine learning classifiers and feature selection algorithms. The system has tested accuracy against different combinations of classifiers and feature selection algorithms from which Random Forest algorithm as a binary classifier and Relief F algorithm which is feature selection algorithm have performed better than other combinations. To detect phishing attacks various techniques which are machine learning based, Anti-phishing tools are discussed in related work of the paper.



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## Online Smart Ration Card System with Multifactor Authentication

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Department of Computer Engineering, JSPM's BSIOTR, Wagholi, Pune, Maharashtra, India.

**Abstract:** In this paper, the online smart ration card system with multifactor authentication techniques has been proposed to prevent from ration forgery. Multiple factors like biometric (fingerprint technique), Radio Frequency Identification (RFID), color code sequences and SMS entry way are used to keep the ration fraud. In this framework, a RFID tag is utilized that conveys relative points of interest and the client needs to show this tag at the ration shop or at his/her place before getting the ration. The user will need to give thumb impression on the biometric machine to verify if user is authentic or not. Additionally, before placing an order the user has to provide preferences of color code sequences as provided by the user during registration. Thus, the user 's authenticity is verified using multiple factors thereby increasing the security of the overall system. Apart from traditional approach of visiting and then collecting the ration, a novel approach has been introduced here where the authenticated user can demand the ration online and receive it at their specified location (Eg: Home address). In this paper, we present a brief introduction to Ration Distribution system using Smart card with increased usability and security of the overall system.

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## An Analysis on Choosing a Proper Survey Software

Prashik Hingaspureand Archana Patil

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**Abstract:** Choosing a survey platform is very important decision when launching an online survey. A suitable platform must be able to meet many of requirements as not to confuse the user. It should provide an online business operation providing tools for managing back-office tasks. There are dozens maybe hundreds of survey platforms available to create an online survey, so the decision to choose a platform is difficult. In this paper, we endeavoured to think about 10 of the most well-known open source survey platforms utilizing a mathematical model dependent on the platform functionalities. Each of these permit parameterizations of an online survey in a brief timeframe, with some moderately minimal cost or near 0.

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## Talking Hand for Vocally and Visually Impaired People

Dhanashree Kulkarni, Chankit Turkar, Chinmay Zade and Shubham Tiwari

Department of Electronics and Telecommunication, DIT, Pimpri- 411018, India

**Abstract:** Generally, vocally impaired people communicate through sign language based on hand gestures with specific motion and visually disabled people face difficulties on their path due to unexpected obstacles. Talking hand is basically an electronic wearable device which provides speech to the vocally impaired people by converting sign into direct speech. It helps visually impaired to avoid obstacles by informing them through vibration depending upon the distance between user and obstacle. This device has been implemented with help of flex sensor, microcontroller (Arduino), distance sensor with vibrator and the Bluetooth chip. However, further development are required to convert signs into complete speech.

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## Application for Drug Addicts Using Artificial Neural Networks

Ankit Junghare, Karina Milani, Mahesh Chavan and Vishwas Ransing

Dept. of Information Technology, Sinhgad Institute of Technology, Pune-India

**Abstract:** This is an application build with the aim to implement a proper advisory system for drug addicts. Drugs are the prime cause for the devastation of personal as well as social life of youngsters. Application uses Artificial neural networks to map the input provided by the users on the basis of questionnaire asked by the application. Artificial Neural networks are being used widely for the applications related to prediction and classification. The accuracy achieved in above mentioned task has made neural networks a reliable technique to generate results by using data gathered from different sources as a training set. This application takes input from the user as the duration and type of drug intake and provides scores related to addict's conscientiousness, sensation, openness, etc. as an output in detailed report format. This helps user or rehab medics to decide preliminary actions to be taken to recover the addiction and to identify the problems being faced by the addict. Application also provides information regarding High risk of drug use, anti-social behavior and negative urgency in the report generated.

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## Comparative Analysis of Optical Flow Algorithms for Anomaly Detection

Neeta Nemade and V. V. Gohokar

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**Abstract:** Presently there is major interest in visual surveillance systems for crowd anomaly detection. Horn-Schunck, Lucas-Kanade and Farneback optical flow methods are used for the estimation of motion in the scene. The motion vectors; magnitude and orientation are analyzed in this work to detect anomaly in crowd. It helps classify the crowd as normal or abnormal, walking or running, vehicle entering in crowd. Various databases are evaluated to check the validity of the feature extraction process. In order to cluster the behaviour as normal or abnormal, Artificial Neural Network is used as a classifier. The results from Farneback optical flow estimation algorithm are promising for crowd behaviour understanding and anomaly detection.

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## Formulation Of Mathematical Model For The Vibration Response of Machine Components Placed on A Shaft Supported By Six Journal Bearings

Krunal Mudafale<sup>1</sup>, Girish Mehta<sup>1</sup>, Prakash Awasarmole<sup>2</sup>, Vishal Kaushik<sup>1</sup> and Piyush M. Sirsat<sup>1</sup>

<sup>1</sup>Priyadarshini College of Engineering, Nagpur-440019, India; <sup>2</sup>Nagaarjuna College of Engineering, Nagpur-440019, India

**Abstract:** The present state of the art of vibration based condition monitoring for the machine components placed on a shaft supported by more than three bearings seems to be inadequate. To propose an alternative approach over the present state of the art, an attempt has already been made considering a shaft supported by six antifriction bearings [1]. However, a further attempt is made through this work by

adopting the same approach considering six journal bearings. To validate this new approach, an experimental set-up is designed, fabricated and experimentation is executed. A further attempt is made to formulate the mathematical models to predict the vibration response.

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## Harmony Vertical Axis Wind Turbine

Kalpana Malvadkar, Akash Mali, Namrata Yemul and Mrutyunjay Patted

JSPM's BSIOTR, Wagholi, Pune, Maharashtra, India

**Abstract :** In this paper we present our innovative wind turbine structure for enhancing efficiency for various applications. The smart wind turbine consists of curvy savonius blades which are connected to the shaft. The blades are designed in a such a way that, if wind strikes on any one part of blade (i.e. left side or right side of the shaft ) the wind turbine rotate effectively on its own axis and in only one direction i.e. clockwise direction. The AC generator is connected to the lower part of the wind turbine which converts mechanical energy to electrical energy. The generated electrical energy is stored in battery by converting AC voltage into DC voltage with the help of Rectifier & gets stabilized by regulated Module. This stored energy which can be further used for home lighting, street lighting, toll gates etc. Hence our prototype module has been developed and analyzed in real atmosphere. This project idea does not required heavy towers, Protects against the breakage of blades, works effectively even if wind changes indirections.

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## Leaf Detection by Extracting Leaf Features with Convolutional Neural Network

Chitra Patil and Swati Shinde

Department of Information & Technology, Pimpri Chinchwad College of Engineering, Pune, India

**Abstract:** Plants are backbone of human's life and plays vital role by providing us food and oxygen. In order to improve the drug industry, balance the ecosystem as well as the agricultural productivity and sustainability there is need of good understanding of plants to helps in identifying new or rare plant species. In proposed system, learning of leaf features extracts from pre-processed image instead of raw image. Extraction of leaf features under series of convolution layers reduces time complexity than hand crafted features. In this System also decides raw image are gone through image pre-processing stage like background removal, edge detection and gray scale conversion. Evaluate the hierarchical transformation of leave features from low level to higher level abstraction. First of all train a pre-process leaf data under CNN layer and find that the network exhibits layer-by-layer transition from general to specific types of leaf features.

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## Decentralized Logging Service using IPFS for Cloud Infrastructure

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Army Institute of Technology, Dighi Hills, Alandi Road, Pune 411 015, Maharashtra, India.

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**Abstract:** In any shared space of resources it is very important to have a trustable way to record how and when the resources have been used and by whom. Similarly, in any cloud-based platform, collection of logs is an important activity required to have a trustable record of the activities performed by the users and pin point any malicious deeds performed. Forensic investigations however face a grave challenge of ensuring the integrity of the logs. The activity of collecting logs and ensuring their integrity becomes a necessity with regulations like SOX enforcing it on financial institutes. In this paper, IPFS has been employed to create a system which preserves all the meta- data of logs generated by the network activity of the virtual machine and guarantees the confidentiality, integrity and availability during any forensic investigation. The integrity of the logs is guaranteed by the IPFS system which creates a content-based hash for the logs and stores them securely. As files in IPFS are indexed by their hash, tampering with a log will result in creation of a new hash which won't exist in the index. Index will still point to the original hash, hence integrity is achieved. In previous research, the systems could guarantee whether a log has been tampered with or not, but none provided a mechanism to recover meta- data of tampered logs to their original state.

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## Three-coil Inductive Power Transfer Using a Direct AC-AC Converter Topology for EV Charging Application

U.Surendrakumarand Alamelu Nachiappan

Pondicherry Engineering College, Pillaichavadi, Puducherry-605014, India

**Abstract:** This paper proposes a new Inductive Power Transfer (IPT) topology using a full-bridge current-fed direct ac-ac converter and three inductive coils. In the primary side, a parallel-series(CCL) type tank compensation network is selected to ensure compatibility between ac-ac converter and tank compensation network. A simulation model of the direct ac-ac converter with an inductive power transfer system is developed using MATLAB/ Simulink. Firing pulses of 48kHz are generated using PWM technique. The voltage and current of this system at different stages are observed and the results are presented. The effectiveness of the three coil power transfer is proved by comparing the results with a two coil system.

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## Big Data Classification using the Deep Learning enabled Spark Architecture: A Survey

Anilkumar Brahmane and B. Chaitanya Krishna

KLEF Deemed to be University, A.P., India

**Abstract:** Currently the Big Data applications such as social networking, medical healthcare, agriculture, banking, stock market, education, Facebook etc. are generating the data with very high speed. Volume and Velocity of the Big data plays an important role in the performance of Big data applications. Performance of the Big data application can be affected by various parameters. Speedily search, efficiency and accuracy are the some of the dominant parameters which affect the overall execution of any Big data applications. Due the direct and indirect involvement of the characteristics of 7Vs of Big data, every Big Data services expect the high performance. High performance is the biggest challenge in today's changing scenario. In

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this paper we made a survey to propose the Big Data classification approach to speedup the Big Data applications. This paper is the survey paper, we refer various Big data technologies and the related work in the field of Big Data Classification. After learning and understanding the literature we find out the gaps in existing work and methodologies.

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## Feature Selection and Polarity Classification using Machine Learning Algorithms NB & SVM

<sup>1</sup>Smita Bhanap and <sup>2</sup>Seema Babrekar

<sup>1</sup>Fergusson College, Pune, India; <sup>2</sup>Dr.Babasaheb Ambedkar Marathwada University, Aurangabad, India

**Abstract:** Sentiment analysis and its classification of social data has become challenging now a days because of unstructured nature of data, slang, misspells and abbreviations used by customers while giving comments or reviews. Using machine learning approach for sentiment analysis helps in finding useful patterns and derive predictions which are important in decision making for improvement of overall products and customer satisfaction. In this paper we use tweets for famous mobile brands like Iphone, Vivo and Red MI. Machine learning algorithm like naïve Bayes and SVM are used to find polarity of tweets like positive, negative or neutral. This helps to find popular brands. Also we compare overall accuracy of these algorithms using measures like precision and recall and f measure.

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## A Review of Soft Computing Technique for Real-Time Data Forecasting

Shabana Tamboli and LaxmiBewoor

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**Abstract:** Weather forecasting attracted so many researchers from different research communities because of its tremendous effect on global human life. Mechanistic models rather than traditional numerical model are gaining more attention. Hence, it is of interest to implement a model which will be faster and more accurate than traditional meteorological models. The recent advancement in deep learning techniques achieved notable results in natural language processing, audio, video, image processing, etc. However, not much research has been yet conducted in such neural networks using real-time data. Hence, it is of interest to study whether deep neural network can be a good solution to predict weather parameters combined with enormously available weather time series data. This paper provides brief review about various attempts like Soft Computing, Machine Learning and Artificial Neural Network made for weather forecasting.

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## A Comparative Analysis of Intrusion Detection Techniques: Machine Learning Approach.

Komal Rasane, Laxmi Bewoor and Vishal Meshram

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**Abstract:** Intrusion detection plays vital role in network security. Information systems which are based on computer are crucial part of any organization. In network security, detecting an intrusion is major task. Thus, the goal of intrusion detection system is to detect attack in a network domain. To check confidentiality, integrity and availability several algorithms have been implemented. These algorithms are implemented on static dataset like KDD-Cup 99, NSL-KDD, UNSW-NB 15, Kyoto 2006+ etc. But there is a challenge to impart malicious activity on real time data using machine learning algorithm. This paper provides comparative analysis of different machine learning techniques which is use to classify the data and eventually compare the performance of the techniques with respect to accuracy. Experimental results show that RF outperforms over other algorithms.

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## Detection of Diabetic Retinopathy using Convolutional Neural Network

Hare Shyam Sharma, Ajit Singh, , Amit Singh Chandel and Ashwini Sapkal

Army Institute of Technology Pune, India

**Abstract:** Diabetic Retinopathy(DR) is a disease which is caused due to long term diabetes. It is a visual exposition of diabetes, caused by impairment of the blood vessels in the retina. Around 80 percent of the population having diabetes for more than 10 or more years has some stage of the disease. In this paper, we propose a system that digitally detects the disease using Convolutional Neural Networks(CNN). CNN are used for the implementation of the proposed system as it most apposite for image data set. The programming language used for the implementation is python and libraries included are Keras, opencv ,numpy etc. The accuracy achieved by the model is 74.04 percent for 5 class classification. The accuracy can be further improved by increasing the size of the dataset as only a subset of the data set is considered for implementation of the model because of hardware constraints. The model is implemented on kaggle cloud.

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## A Review for Semantic Analysis and Text Document Annotation Using Natural Language Processing Techniques

Nikita Pande and Mandar Karyakarte

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**Abstract:** In today's fast-growing world with rapid change in technology, everyone wants to read out the main part of the document or website in no time, with a certainty of an event occurring or not. However annotating text manually by domain experts, for example cancer researchers or medical practitioner becomes a challenge as it requires qualified experts, also the process of annotating data manually is time consuming. A technique of syntactic analysis of text which process a logical form S-V-O triples for each

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sentence is used. In the past years, natural language processing and text mining becomes popular as it deals with text whose purpose is to communicate actual information and opinion. Using Natural Language Processing (NLP) techniques and Text Mining will increase the annotator productivity. There are lesser known experiments has been made in the field of uncertainty detection. With fast growing world there is lot of scope in the various fields where uncertainty play major role in deciding the probability of uncertain event. However, syntactic analysis alone will not give desired results. Hence, it is required to use different techniques for the extraction of important information on the basis of uncertainty of verbs and highlight the sentence.

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## A Robotic Framework for Simulation and Control of SCARA Robot Based on ROS

Ujwal Shirode, Aishwarya Aher, Pallavi Bale and Aishwarya Kadam

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**Abstract:** Robot Operating System (ROS) is a popular robot development platform that provides various features such as passing various messages, distributed computing, reusing of code, and so on. The ROS community is growing very fast and there are several users and developers worldwide. Most of the high-end robotics companies are switching from proprietary robotic application to ROS. In industry, SCARA robots are widely used as they are faster than similar types of Cartesian robot systems. In this paper, we propose the design and control of the SCARA robot using ROS. For implementation, an Arduino UNO board is used as an interface between the robot model and the ROS environment. Rviz simulator is used to visualize the model and MoveIt! Setup Assistant is used to controlling the robotic arm with the help of joint state publisher. This paper gives the overall idea about ROS and its advantages for controlling industrial robots.

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## Chat Bot for Relieving Stress

Aafiya Shaikh, Dipti More, Sayli Shrivastav, Ruchika Puttoo and Swati V. Shinde

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**Abstract:** Happy soul is an android based chatbot that helps its users to stay calm and help them relieve stress by acting as a 24\*7 companion. Chatbot refers to software that can generate applicable replies to any query. This paper will prove to be of great help to society as nowadays adolescents refrain themselves from showing true emotions to anyone. This project aims privacy and confidentiality of the users' emotion as the replies will be auto generated and the user will not have to reveal their cause of anxiety to anyone. Happy soul uses algorithms of machine learning and natural language processing to generate replies. An API of the processing can be made to be used by an android application. The application serves as front end to just take in the input and display the output. The backend processing uses concept of artificial neural network, artificial intelligence markup language and classification to process the input received from front end and produce a corresponding reply.

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## Secure and Cost Effective Public Cloud Storage for Managing Construction Firm Services

Vidya Shitole, Shradha Kirve, Kajol Chopda and Daulu Shaikh

Department of Computer Engineering, Suman Ramesh Tulsiani Technical Campus, Khamshet, Maharashtra, India.

**Abstract:** In the world of online business there comes a difficulty where we cannot assure the organization is trustworthy or except for the physical operational premises we look forward for the existence of the organization online i.e. a web site. Recently their area unit tremendous has begun where small and medium scale companies, UN agency take the responsibility to frame information in superhighway websites of organizations. These companies take just one occasion charges and develop a variety of static model which could show static knowledge. But, a corporation keeps on growing and dealing on further and extra fields for such state of affairs the data or illustration of information regarding organization should be changed that the net website should be turned off or passed in at a lower place construction mode that is-cost-efficient. To beat this we tend to stand live designing a model which could handle the illustration and modify it per user convenience. This might be achieved with the help of Dynamic net Application and MVC Structure.

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## Comparative Analysis of Lung Segmentation

Rochelle D'Sa, Kelvin Lewis, JovitaPereira, Vicky Thomas and SatishkumarChavan

Don Bosco Institute of Technology, Kurla West, Mumbai 400070, India

**Abstract:** Lung cancer detection is a crucial and time-consuming task which is undertaken majorly by highly trained professionals or doctors. Lung parenchyma segmentation is a pre-processing technique for lung nodule detection. Segmentation of lung parenchyma is useful for delineation of lung nodules or lesions and for further analysis. It can be achieved by automating the segmentation process to reduce human errors as well as to help radiologist for accurate diagnosis of lung diseases. This paper deals with comparative analysis of three lung parenchyma segmentation techniques. Watershed segmentation provided a better accuracy as compared to region based segmentation and cluster based segmentation. The segmentation algorithms are tested on 400,000 images. Watershed segmentation outperforms and provides an accuracy of 96.57%.



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## A Review on Marathi Speech Recognition

Shital Joshi ,Vaishali Bhagile and Ratnadeep R. Deshmukh

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**Abstract:** Speech is a natural and efficient way to communicate with human beings. Nowadays, researchers are developing speech-based systems so that the computer can communicate with users like human beings. This paper is an attempt to summarize the work done in the area of Speech Recognition for the Marathi language. Lot of work is being done in Asian languages. But in the case of Indian languages, there is a scope for development. Work done in Indian languages is negligible. Researchers are working in Tamil, Telugu, Hindi, Bengali and Marathi. Marathi is a versatile language. It has a variety of effects. The work in Indian languages, in terms of application-oriented is very less. The language technology can help to bridge the gap between technically illiterate people to join the mainstream & be part of Digital India & avail the benefits of it.

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## A Novel Region Duplication Detection Algorithm based on Hybrid Approach

Kshipra A. Tatkare and Manoj Devare

Amity University, Mumbai, India

**Abstract :**The digital images from various sources are ubiquitous due to easy availability of high bandwidth Internet. Digital images are easy to tamper with good or bad intentions. Non-availability of pre-embedded information in digital images makes the tampering detection process more difficult in case of digital forensics. Thus, passive image tampering is difficult to detect. There are various algorithms available for detecting image tampering. However, these algorithms have some drawbacks, due to which all types of tampering cannot be detected. In this paper researchers intend to present the types of image tampering and its detection techniques with example based approach. This paper also illustrates insights into the various existing algorithms and tries to find out efficient algorithm out of them.

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## Real time Facial Expression Recognition using Deep Learning

Isha Talegaonkar, Kalyani Joshi, Shreya Valunj, Rucha Kohok and Anagha Kulkarni

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**Abstract :**As we move towards a digital world, Human Computer Interaction becomes very important. A lot of research has been done in this field over the past decade. Face expressions are a key feature of non-verbal communication, and they play an important role in Human Computer Interaction. This paper presents an approach of Facial Expression Recognition (FER) using Convolutional Neural Networks (CNN). This model created using CNN can be used to detect facial expressions in real time. The system can be used for analysis of emotions while users watch movie trailers or video lectures.

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## Inter Frame Video Forgery Detection using Normalized Multi Scale One Level Subtraction

Rahul Parmani, Soham Butala, Aakash Khanvilkar, Sachin Pawar and Namita Pulgam

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**Abstract:** Due to the ease of accessibility to image and video processing software, it has become easier to tamper images and videos without leaving any traces. Such malicious tampering, which cannot be grasped by human eye may lead to undesirable social as well as legal problems. Tampered videos may be used to provide false proof in court or mislead the public about the truth in news reports. This paper aims to propose a novel method called Normalized Multi Scale One Level Subtraction (NMOLS) to detect forgery. In our proposed method video sequence is divided into frames and then pixel grey values of each frame computed, after this all these frames are go through proposed approach. Our system will detect insertion and deletion forgery and it will also detect which type of forgery is done on the video. The proposed method has been assessed utilizing a sizably voluminous dataset. Precision and recall rate of insertion forgery detection is 99% and for deletion forgery detection precision and recall rates are 93% and 96% respectively.

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## Performance Analysis of Index Modulation

Sohan Juvale, Mansi Nikam, Sagar Virkar, Aditya Singh and Namita Agarwal

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**Abstract:** Multicarrier Transmission is an important technology for wireless and wideband digital communication systems. It becomes quite easy to eavesdrop or disrupt a wireless network with noise and interferences. These difficulties were tackled through encryption and cryptography. The development of 5G and beyond wireless networks can support massive number of devices and elements and does not need encryption keys. 4G wireless systems has availed several features in today's fast world in the field of wireless communications. But the researches still need to seek solutions for increasing interest for high data rates, better QoS, completely optimized mobile systems and lower latency. 5G systems are foreseen to have ten times high energy and spectral efficiency than current 4G systems. 5G will likewise support data rates upto 10Gbps. A standout amongst the most broadly utilized techniques in wireless networks is OFDM (Orthogonal Frequency Division Multiplexing). It divides the wide band frequency selective fading channel into narrow flat sub band channels. It mainly combats the effect of multipath reception. Recently another transmission technique is developed which incorporates Index Modulation with OFDM.

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## A Review on Diversified Mechanisms for Multi Focus Image Fusion

Uma Dulhare, Areej Mohammed Khaled and Mohd Hussam Ali

MJCET, Hyderabad - 500034, India

**Abstract:** In today's world, the demand of Image Fusion has been drastically inflated owing to limitation of improper image capturing, lack of clarity and quality of various scenes. Image fusion is the process of combining two or more number of images to produce a high-resolution multi spectral image because it

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maximizes the relevant data from input pictures of a scene into one composite image by reducing uncertainty that additionally minimizes redundancy within the output. In this paper we comprehensively survey the existing methods of image fusion techniques for multi focus image fusion such as Averaging method, Differential Evolution algorithm-based technique, Discrete Wavelet Transform based fusion and Quaternion Wavelet Transform based fusion. This comparison of all the techniques serves as reference for researcher in multi focus image fusion and related work for future analysis.

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## Freight Analysis Using YOLOv2

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**Abstract:** Monitoring traffic of India and calculating the peak hours and density count in a single day helps to develop a required travel and traffic volume estimates, which is required for satisfying all the needs in the planning of roads, its construction, its maintenance and overall administration of the state. Vehicle counting is an important aspect to understand the traffic load and optimize the traffic signals. Detection of vehicles is expected to be more efficient and robust in number of sceneries. Due to improvement in various algorithms and research work, detection mechanism of traffic data analysis has made a significant improvement over traditional methods. Traditional machine learning algorithms and computer vision for object detection now running under slow response time. This problem can be solved by modern architectures and algorithms based on ANN (Artificial Neural Network), like YOLO (You Only Look Once) without any major losses. YOLO and its versions achieved a jaw-dropping performance in computervision and had achieved a great success in object detection and classification. In this paper, we are presenting vehicle counting, detection and classification based on YOLOv2. Some video sequences have been taken and tested with the planned algorithm.

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## Detection of Lung Nodules in Computed Tomography image using Deep Machine Learning: A review

Mahender Nakrani<sup>a</sup>, Ganesh Sable<sup>b</sup> and Ulhas B Shinde<sup>a</sup>

<sup>a,c</sup> CSMSS's Chh. Shahu College of Engineering, Aurangabad, India; <sup>b</sup> G S Mandal's Maharashtra Institute of Technology, Aurangabad, India

**Abstract:** Lung Nodules detection is very critical in detection of early stage lung cancer. A radiologist tries to diagnoses the clinical chest computed tomography (CT) scans by detecting lung nodules in them. This task is rigorous and becomes even more difficult due to the complex structure and anatomy of lung parenchyma region. To assist radiologists in correct diagnosis of CT scan images, many Computer-aided detection (CAD) algorithms were developed and proposed. After the success of deep convolutional neural network (D-CNN) for classification of images, D-CNN has found its way into lung nodules detection systems. D-CNN has demonstrated better results and performances than traditional machine learning based lung nodules detection algorithms. In this paper, we will discuss about different D-CNN proposed for lung nodules detection and compare the results and performances of these detection algorithms.

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## Analysis of Fundamental Frequency, Jitter and Shimmer in Stuttered and Non-Stuttered Speech of Marathi Language

Swapnil Waghmare , Ratnadeep Deshmukh and Sangramsing Kayte

Department of Computer Science and IT, Dr. B.A.M. University, Aurangabad (MS)-431004, India

**Abstract :** Stuttering is one of the complex speech disorder which lead speech unintelligible to other and ASR system. In this paper Fundamental frequency ( $f_0$ ), vocal jitter and shimmer were measures the numerical words of 17 Stuttering (PWS) (i.e. 13 Male and 4 female) and 25 Non-Stutterers (NS) (i.e. 15 male 10 female) belongs to the Marathi Language. Jitter and shimmer are measurements of the cycle - to - cycle variations of  $F_0$  frequency and amplitude, respectively, which were largely used to describe pathological voice quality. The experiment performed with PasrelmouthPraat Scripts in Python. This is the first attempt for the Marathi Language. Shimmer were shows the negligible difference between PWS and NS speech samples.

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## A Reliable Workload Management based on Predictive Analysis and Characterization of workload resources in HPC

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**Abstract:** Execution of Big Data workloads upon High Performance Computing (HPC) infrastructures has become an attractive way to improve their performances. In resource management, a large volume of multi-structured log data of Cloud Data Center (CDC) is generated regarding job arrival patterns, CPU memory consumption, task duration and many others. The system also provides the mechanism for CACO Cauchy matrix method for automatic data recovery from disk failure; it can also remove the lengthy process like replica management. In this paper we proposed a system for dynamic load rebalancing and resource allocation technique using machine learning algorithm. Q-Learning based on ML algorithm has used for validating the system. Experimental analysis illustrates that how proposed system eliminates the present approaches drawbacks. Our key is to identify the various workload patterns generation in heterogeneous storage environments using machine learning algorithm.

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## Early Placement Prediction System for Engineering Students of Indian Universities

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**Abstract:** Engineering is considered as one of the competitive field wherein getting a good profile job with decent salary as a fresher is challenging. The demand for employable students is increasing day by day. This paper presents an approach for early placement prediction using scores of 10th, 12th board examination and Multilayer Perceptron. The idea is to predict the possibility of placement after the admission of student in the institution so that institute can train the probable week students in more efficient manner for placement drives. The proposed approach is tested using placement data collected for past four academic years of SIES Graduate School of Technology, Navi Mumbai. Experimental results support the effectiveness of the proposed approach.

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## Fault Monitoring of Solar Panels using Wi-Fi

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**Abstract:** In today's scenario of power generation, the solar power plays a vital role. Harnessing the solar energy to its optimum level has been a major challenge for the scientists and engineers for over a decade. With advances in the technology, we have come up with two widely accepted methods of generation of electricity from the solar energy, viz. solar thermal generation and solar photovoltaic generation, of which, the later one has been the most popular. Solar photovoltaic, in spite of being the most passive and convenient method, is quite heavier on the budget when it comes to its installation cost. [2]. Therefore, it becomes essential to protect the photovoltaic system from severe damage. The solar cells are semiconductor devices, which are quite sensitive to its parameters such as current, temperature, resistance, etc. As the solar panels are open in the atmosphere, they are subjected to the drastic changes that occur in the atmosphere. This may lead to uncontrolled damage to the solar panels. In order to avoid any severe damage, it is essential to detect and resolve the faults in time.

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## Smart IoT Based Automatic Power Factor Control

Akshay Barhate, Kirti Mundada, Bhargavi Kulkarni and Manasi Deore

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**Abstract:** Power is that the basic necessity for the economic development of country. Power consumption is increasing day by day at a very high rate. The modern system is such a lot dependent upon the utilization of voltage that it's become the half and parcel of our life. So we'd like to seek out the causes of power loss and improve the ability system. Due to industrial enterprise the utilization of inductive load will increase and thence facility losses its potency. So we'd like to boost the ability issue with an acceptable technique. The aim our project is to build the AUTOMATIC POWER FACTOR CONTROL (APFC) UNIT, which is able to monitor the energy consumption of a system and automatically improve its power factor.

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## Blockchain Based E-Voting System

Prathmesh Ladkat, Harshal Patil, Abhishek Jituri and Rohit Desai

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**Abstract:** Recently, numerous accusations have been raised on the sincerity of the Electronic Voting Machines (EVM) used in the Indian elections. Because of these accusations, there is a need for a newer system that is in able to meet up security and modern era. The new system should be able to gain the trust of people and encourage them to vote. It should be secure, auditable, and transparent and should be able to reinforce the confidence of the voters in the democratic election process. Blockchain technology allows for the development of a decentralized distributed open ledger. It offers features like immutability of data, the integrity of data, transparency in the system and resistance of data to modifications.

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## Brain Tumor Classification Using Shape Analysis of MRI Images

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**Abstract:** Brain tumor is mass of normal and abnormal cells in a brain. In medical field, MRI images are widely used for brain tumor detection. MRI images gives broad information about soft tissues of human body. This information can be used for brain tumor detection by using feature extraction technique. Brain tumor can be classified into Benign and Malignant. The common goal of feature extraction and representation techniques is to convert the segmented objects into representations that better describe their main features and attributes. The proposed methodology describes extraction of tumor from MRI images. Firstly, find out the region of interest of brain tumor for feature extraction and then calculate the shape features. Obtained shape features used for the classification of Benign and Malignant tumor. Random forest gives the better accuracy than support vector machine for classification of tumor.

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## Detection of Insider Attack in Distributed systems

Vikar Shaikh and Tanuja Pattanshetti

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**Abstract:** The Insider (masquerade) attack, where an attacker takes on the identity of a authenticate user, such as valid usernames and passwords, to bypass safeguards ensuring confidentiality, integrity, and availability of information resources. Such attacks totally undermine customary security systems because of the trust imparted to client accounts once they have been validated. Attackers using valid credentials are difficult to detect without first generating a profile for the user credentials and then comparing user activity against established patterns. Many attempts have been made at detecting these attacks, yet achieving high levels of accuracy remains an open challenge. In this paper, we discuss the algorithm to sequences of monitored audit data with sequences known to have been produced by the user, the algorithm can discover areas of similarity that indicates the presence or absence of masquerade attacks. This technique is evaluated against the data set comprised of truncated UNIX command sequences to detect masquerades based on the probability of commands.

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## Reactive Power Compensation Using Thyristor Switched Capacitor

Akash Phadke, Minaji Nivagire, Pravin Vitnor and Sahebrao Patil

JSPM BSIOTR, Wagholi, Pune

**Abstract:** Power factor correction has always been a challenging task. We may not realize that we are wasting electrical energy due to lagging power factor in inductive loads that we use. With increasing regulations and standards from electricity board, it becomes necessary for industrial and factory units to abide them without affecting their efficiency and other standards. This has increased competition among manufacturers to design different PFC stages for different applications. There are stages for loads that do

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not vary with power supply known a passive stage and for loads that vary with power supply known as an active stage. This paper presents power factor control using capacitor and thyristor switching. It aims to enhance the operation with the help of intelligent microcontroller that controls the capacitors in the bank by continuously monitoring power factor. Voltage transformer and current transformer are used to sense the voltage and current while op-amp measures their zero crossing.

## Smart Fan Controlled By Using IR Remote

Pratik Dodake, Pooja Kamble, Kalyani Kakad and Snehal Bhaladhare

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**Abstract:** Single-phase induction motors are wide utilized in several residential, industrial, commercial and utility applications. Within the quick growing world nowadays it is necessary to manage the speed, intensity and ON-OFF power of any devices from remote locations. Fan is one in all the inevitable equipment in our day to day life. The present paper describes a style associated implementation of an infrared IR signal decoder which may be used for numerous home control applications. This project is meant to regulate the speed of a single-phase induction motor victimization a simple operative knob, that is often utilized in home automation application. For an indication we have designed remote controlled fan regulator and ON-OFF power provider switch.

## Invisible Video Watermarking for Data Integrity and Security based on Discrete Wavelet Transform – A Review

Nitin Dhawas and Sambhaji Patil

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**Abstract:** To maintain the data integrity of transmitted video is very essential to secure any web-based system. Implementation of the invisible video watermarking is the best solution by using discrete wavelet transform gives us secured transformation in image processing applications. This method is also implemented as a 2-factor authentication (2FA) to secure the system. To protect the piracy of important data we implemented the above method.

The major issue of illegal manipulation and sending/receiving of digital video becomes a big problem. To resolve this kind of issue, a latest and new technology has been suggested or we can say that proposed. Basically, it is a mechanism of implant copyrights information into a bit streams of any kind of video, the video may be any type i.e. it will be study purposed, presentation purposed, organization purposed and entertainment purposed. In this kind of scheme, the random segmentation and reconstruction of implants secreta data is done without having or knowing the original provider video. Throughout this process, confidential data or sensitive data is implanted in separate video frames using the DWT's frequency territory. DWT means Discrete Wavelet Transform. In the DWT's i.e. discrete wavelet transforms video watermark mechanism has been inaugurated for securing the confidential or sensitive data. We proposed a Haar wavelet ground (based) digital watermark mechanism to secure confidential or sensitive data.

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## Microcontroller Based Closed Loop Constant Speed control System For variable load of $1\Phi$ Induction Motor

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**Abstract:** In this paper we are going to use microcontroller based thyristor control circuit which is used for speed control of induction motor. The main objective is to provide a closed loop feedback by a Hall Effect sensor to the controller. Triac circuit is used to vary the output according to the controller signal. The system has the ability and the economic value for fulfilling the speed control of induction motor.

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## Face Authenticity: An Overview of Face Manipulation Generation, Detection and Recognition

Zahid Akhtar, Dipankar Dasgupta and Bonny Banerjee

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**Abstract:** Within a few years, there is an exponential growth in altering photos and videos by easy-to-use editing tools (e.g., Adobe Photoshop). Especially, face digital manipulations (e.g., face swapping) have a critical issue for automated face recognition systems (AFRSs), as they have detrimental effects on AFRSs accuracy. Also, the advent of powerful deep learning methods has led to realistic face sample generation and manipulation. Despite recent advances in face manipulation detection techniques, manipulations-aware AFRSs and face synthetic sample/manipulation generation, more sophisticated face alterings are yet very difficult to be detected by human examiners and current existing approaches. Thus, devising universal face manipulation detectors and manipulations-aware AFRSs will immensely improve the trust in biometric applications and digital communications. This paper presents an overview of the recent schemes on face manipulation generation, detection, recognition, and databases. Also, potential future research directions and challenges are discussed.

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## Energy consumption Estimation framework at Source Level For The Data Centers

Manjushree Hingamire and Ramkrishna Vadali

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**Abstract:** In a cloud computing environment, you can use source-level energy consumption (EC) estimation to estimate the amount of energy consumed by the cloud before the cloud computing tasks are performed. EC estimation of tasks is important for source code improvement in the aspect of task scheduling and EC optimization. We propose a cloud data centre. Here to perform a task on our cloud data centre and calculate the energy. We use energy awareness algorithm to calculate the energy of the task. Finally, we compare the energy required to perform the task on local machine and cloud. We show that our proposed system is more efficient than the existing system.

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## Adaptive Jaya Optimization Technique for Feature Selection in NSL-KDD Data Set of Intrusion Detection System

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**Abstract:** Now a days, network traffic is increasing due to the exploding usage of smart devices and the Internet. The intrusion detection work centered on feature selection or decrease because few of the features are irrelevant and excess which results prolonged detection procedure and reduces the performance of an intrusion detection system (IDS). The NSL-KDD data set is a refined variant of its predecessor KDD'99 data set. The intent of this work is to determine essential selected input features in building IDS that is computationally efficient and amazing. For this standard feature selection jaya optimization method is used. In this paper the NSL-KDD data set is analysed and applied Adaptive Jaya Technique for selecting best features to minimize low false alarm rate & maximize detection rate.

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## Arduino Based Smart Bell System

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**Abstract:** In today's era many school/college bells are operated manually. But there is requirement of accuracy in operation. In School/Colleges There are many digital clocks available with bells but rings only at specific time and cannot stop after specific time .Here a new and inexpensive design is being presented. The arduino uno is used to controlling all the functions, it gets the time through the keypad and stores it in its memory, the benefit of this design is that the bell rings at the start of each period without any human intervention to a great accuracy and hence takes over the manual task of switching on/off the college bell with respect to time. It uses Real Time Clock device which tracks the real time. The scheduled time results are related with that of a clock, conversely, some irrelevant drift is noticed. When this programmed time equals the real time then the bell is switched on via a relay for a predetermined time. Also while ringing this bell present status of lectures of different classes which are displays on scrolling display.